New York State Integrated Pest Management Program

Development of Alternative Weed Management Strategies for Annual Weed Control in Turfgrass

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Abstract: The development of alternative weed management strategies in turfgrass cultivars involves the use and implementation of novel bio-control practices which can provide efficaceous control over the course of the growing season. Use of pathogenic organisms to control weeds has, to date, not proven particularly effective, due to problems in obtaining consistent control and difficulty in formulation of biocontrol organisms. Organically derived products, such as corn gluten meal or cramby meal, have also not provided consistent control, especially in commercial settings such as golf courses, parks and athletic fields where improved control is desirable. One novel approach which shows strong potential is the selection, development and use of allelopathic or weed suppressive turfgrasses or groundcovers to control annual weeds in the landscape, without the use of herbicides. Fescues, especially *Festuca rubra* spp., produce secondary products known as allelochemicals with potent ability to suppress weed seed germination and growth. The evaluation of a collection of fescue germplasm for turf quality and weed suppressive ability was conducted in fall 1999. Eighty fescue cultivars were examined for their ability to suppress annual weeds as well as their turf quality, as part of the USGA's cultivar assessment program. Of the 80 evaluated, nine cultivars were identified in October 1999 as showing very significant weed suppression (>85% suppression) as compared to other fescues in a field setting.

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